

QSFP-DD (Double Density) Interconnect System and Cable Assemblies

molex

QSFP-DD Interconnect System's 8-lane electrical interface transmits up to 28 Gbps NRZ or 56 Gbps PAM-4, up to 200 or 400 Gbps aggregate, with the same footprint as QSFP Interconnects, making them backward compatible

Features and Benefits

28 Gbps NRZ and 56 Gbps PAM4 Cable Assemblies

Temp-Flex cable technology

Boosts electrical performance. Provides excellent operational margin, short lead times and minimal end-user cost via manufacturing efficiencies

32 and 30 AWG cables

Fulfills all industry application needs at lengths up to 5.0m. Enhances cost structure and lead time

Fully integrated design

Incorporates all components (backshells, cable, populated PCBs) from Molex. Ensures high-quality components are compiled into a comprehensive solution with a superior cost structure

Meets IEEE 802.3bj, InfiniBand EDR and SAS 3.0 specifications

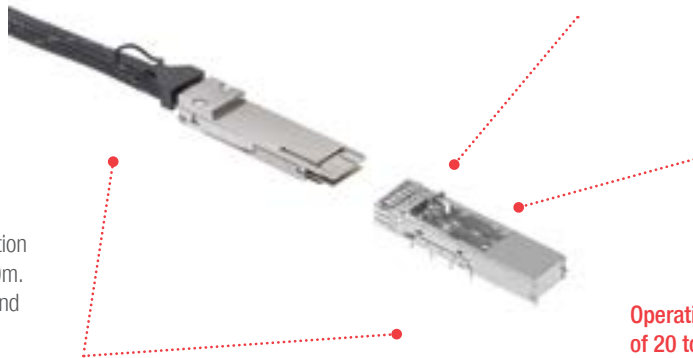
Functions across a wide variety of next-generation technologies and applications

Double density

Extended paddle card with two rows of high-speed context

Operating temperature of 20 to +85°C

Enables use in high temperature environments



Features and Benefits

Sheet Metal (Stainless Steel) EMI Cages (Series 203143, 203152, 203369, 203370, 203371, 203372)

Stainless steel cage construction

Offers increased robustness versus copper alloy material

Identical mating interface as the QSFP+ connector for backward compatibility

Protects end user's current QSFP+ infrastructure investment

Preferential coupling design uses a narrow-edge coupled, blanked-and formed-contact geometry and insert molding

Provides superior signal integrity (SI) performance, including extremely low insertion loss (IL)

Nickel-plated heat sink

Provides increased thermal transfer from module to heat sink

Stacked integrated connectors and cages are available in 2-by-1 options

Supports pluggable applications



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Features and Benefits

QSFP-DD SMT (Series 202178) and Stacked Integrated Connectors and Cages (Series 204058)

28 Gbps NRZ and 56 Gbps PAM4

Meets or exceeds current requirements for 200 Gigabit Ethernet and InfiniBand 100 Gigabit (EDR) applications. Supports past 10 Gbps Ethernet, 14 Gbps (FDR) InfiniBand and 16 Gbps Fibre Channel applications



Stacked integrated connectors include a metal EMI gasket (Series 171722)

Provides superior EMI containment and suppression

Preferential coupling design uses a narrow-edge coupled, blanked- and formed-contact geometry and insert molding

Provides superior signal integrity (SI) performance, including extremely low insertion loss (IL) of <0.8dB at frequencies up through 14 GHz



0.80mm-pitch host connector designed for placement beneath EMI cage

Supports pluggable applications

Applications

Telecommunications Equipment

- Servers
- Routers
- Switches
- Central Office
- Cellular Infrastructure
- Multi-Platform Service Systems



Servers

Data Networking Equipment

- Servers
- Storage

Specifications

28 Gbps NRZ and 56 Gbps PAM4 Cable Assemblies

REFERENCE INFORMATION

Packaging: EMI bag

ELECTRICAL

Frequency Range: 10 MHz to 25 GHz
If Bandwidth: TBD
Supply Voltage: TBD
Supply Current (max.): TBD
Power Consumption (max.): TBD

MECHANICAL

Durability:
PL1 – Performance Level 1 -
0.38µm Au – 50 cycles, 5 year life (no FMG)
PL2 – Performance Level 2 –
0.76µm AU – 250 cycles, 10 year life (14 day FMG)

PHYSICAL

Backshells – Zinc Diecast
Pull – Nylon
De-Latch – Stainless Steel
Cable – 8pr, 100 Ohms differential, CL2
RoHS Compliant: TBD
Operating Temperature: TBD
Non-Operating Temperature: TBD

QSFP-DD (Double Density) Interconnect System and Cable Assemblies



Specifications

SMT Connectors

REFERENCE INFORMATION

Packaging: Tape and Reel
UL File No.: TBD
CSA File No.: TBD
Mates With: Copper Cable Assemblies
Double-Density SMT will mate with Series 201591
Designed In: Millimeters

ELECTRICAL

Voltage: 30V
Current (max.): TBD
Contact Resistance (max.): TBD
Dielectric Withstanding Voltage: TBD
Insulation Resistance (min.): TBD

MECHANICAL

Contact Retention to Housing: TBD
Mating Force: TBD
Unmating Force: TBD
Durability: TBD

PHYSICAL

Housing: High-Temperature Thermoplastic
Glass-Filled, UL 94V-0, Black
Contact: Copper (Cu) Alloy
Plating: Contact Area — 30µ" (0.76µm) Gold (Au)
Solder Tail Area — Tin (Sn)
Underplating — Nickel (Ni)
RoHS Compliant: Pending
Operating Temperature: TBD

Stacked Integrated Connectors and Cages

REFERENCE INFORMATION

Packaging: Tray
UL File No.: TBD
Mates With: Copper Cable Assemblies
(Series 201591)
Designed In: Millimeters

ELECTRICAL

Voltage: 30V
Current (max.): 0.5A; power contacts TBD
Contact Resistance (max.): TBD
Dielectric Withstanding Voltage: TBD
Insulation Resistance (min.): TBD

PHYSICAL

Housing: High-Temperature Thermoplastic
Glass Filled, UL 94V-0, Black
Contact: Copper (Cu) Alloy
Plating:
Contact Area — 30µ" (0.76µm) Gold (Au)
Signal Tail Area — Tin / Lead (Sn/Pb)
Underplating — Nickel (Ni)
RoHS Compliant: Yes – By Exemption
Operating Temperature: TBD

MECHANICAL

Mating Force: 0.75N per circuit
Unmating Force: 0.25N per circuit
Durability: 100 cycles for 30µ" Gold (Au) plating

EMI Sheet-Metal Cages

REFERENCE INFORMATION

Packaging: Tray and Box
Mates with: QSFP+ Cable Assemblies (Series 74757, 111040) QSFP+ Loopback Adapter (Series 74763)
zQSFP+ Cables (Series 111114) QSFP+ Double Density Cable Assemblies (Series 201591)
Use With: Connector (Series 202718)
Designed In: Millimeters

MECHANICAL

Durability:
1 insertion to PCB
1-by-1 Mating Force (max.): TBD
1-by-1 Unmating Force (max.): TBD
1-by-6 Mating Force (max.): TBD
1-by-6 Unmating Force (max.): TBD

PHYSICAL

Plating: Nickel (Ni)
Sheet Metal: Stainless Steel
Heat Sink: Aluminum (Al)
Heat Sink Finish: Nickel (Ni)
Operating Temperature: TBD

Ordering Information

Series No.	Component	Port Configuration	Rows	Poles
203143	EMI Cage	1 by 1	Single	5-Pole Power
203152		1 by 2		
203369		1 by 3		
203370		1 by 4		
203371		1 by 5		
203372		1 by 6		

Series No.	Component
204058	Stacked Cages
202718	SMT Connector

www.molex.com/link/qsfpdd.html

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